

PROJECT TITLE : MATERIAL DEVELOPMENT
PERIOD COVERED : DECEMBER 1 1981 - JANUARY 26 1982
WRITTEN BY : Erkohen-E. (ELE)

1. NEW FILTRATION MATERIAL

1.1 Eastman 2.5/40.000 Y Tow

Objective

2.5/40.000 Y tow evaluation. Possible replacement of the existing 3.4/46.000 I by this item.

Summary

For an RTD of 375 mm WG, an economy of 15% of cellulose acetate can be made by using the 2.5/40.000 Y tow instead of the 3.4/46.000 I tow. The corresponding material cost reduction is about 10%. A mail-out test was prepared in order to qualify this tow.

Result of the Mail-out Test

A mail-out test was sent to 310 Marlboro smokers and the evaluation was based on 263 valid answers, ie 85%. No significant taste criteria could be noted as far as total results are concerned. There was a slight preference for the trial (1). A final report was written on January 12 1982 (2).

1.2 Eastman 3.0/48.000 Y

Objective

For a new product development on the HILTON ULTRA project.

Summary

Based on the results given by the cigarette construction model, a 3.3/55.000 Y tow was proposed as a filtration material with 65% dilution. The RTD of the 25-mm plug with this tow item was 105 mm WG. The total RTD of the cigarette was 90 mm WG. We hoped to obtain a similar performance with a 3.0/48.000 Y item on HILTON ULTRA prototypes. The only advantage is economical: 10%-15% tow savings.

Results

The tow item was evaluated on the basis of its capacity curve (Fig. I). Filters made at the optimum point with 9% Estrobond B gave equivalent smoke results and RTD (plug, total cigarette) on the HILTON ULTRA prototype.

1.3 Eastman 2.1/42.000 Y

Objective

New product development.

Summary

In reply to Project Leader P. Nagel's request to reduce tar and smoke nicotine level on MLK cigarettes manufactured in Nigeria, we proposed to modify the filter tow item from a 3.4/46.000 I to a 2.1/42.000 Y tow based on the results given by the cigarette construction model.

Results

A trial run to establish the capacity curve was made on January 20 1982 on a KDF I machine without a transport jet. It was very difficult to establish the minimum point due to the machinability of the tow item. It was observed that the RTD varied too much on the filter rods obtained at this point. The results of the capacity curve is given in Fig. II. The filters obtained at the optimum point had a mean RTD of 480 mm WG for 120 mm rods.

Follow-up

Cigarettes with these filter rods will be produced in Nigeria and analysed at QA-PME. Results of the performance of this filter will be communicated as soon as they are available.

2. TIPPING PAPER

2.1 Malauçène Micro-Laser Perforated Tipping Paper

Objective

Possible replacement of existing tipping paper on MLF-CH and MLK-CH brands by laser-type perforated tipping paper.

Summary

MLF-CH and MLK-CH cigarettes are produced with Benkert Z3/60 electro-perforated tipping paper (air permeability: 60 l/h 4 cm⁻¹). Due to deterioration of the quality of Benkert's tipping paper, the perforation has become visible. Sample MLK-CH cigarettes were made with laser-perforated tipping paper (qualities 3M 0,11.6.5, 3M 0,15.4.5, 2M 0,22.7.5, 4M 0,075.5.5) and compared with the MLK-CH standard cigarettes. From a delivery point of view, no significant difference was noted between any of the prototypes made. Panel B found the 3M 0,15.4.5, the 2M 0,22.7.5 and the 4M 0,075.5.5 to be equivalent tastewise to the standard MLK-CH. Panel A confirmed the same results. Panel A found that no trial prototype gave enough MLF characteristics. A mail-out test will be organized with the 3M 0,15.4.5 tipping paper against the current Z3/60 tipping paper from Benkert.

Follow-up

Cigarettes with the above-mentioned tipping paper will be made at the end of January 1982. The mail-out test will be sent during the second week of February. Results are expected in March.

3. New Experimental Hot-Melt Adhesive XB-525

Objective

Search for a new hot-melt adhesive for ultra-porous plug wraps (300K - 1000K).

Summary

Six bobbins of ultra-porous plug wraps were received last year. Due to bleed-through of the adhesive, it was not possible to glue the plug wraps at the speed of 400 m/min on the rod makers. We asked for Ecusta's assistance on this matter and received 10 kg of hot melt XB-525. We were recently informed by Ecusta that this material was still under development.

Follow-up

Based on this recent information, we are not going to try this hot-melt until it is fully developed.

4. Assistance to Projects

4.1 HILTON ULTRA 3 mg Tar 0.3 mg Smoke Nicotine

For the development of this prototype a 2.5/48.000 Y tow was proposed with 73% dilution. The total RTD of the cigarette with the construction proposed will be 95 mm WG.

4.2 Development of a 3.6 mg Tar and 0.4 mg Smoke Nicotine Prototype based on the California Blend

Based on the results given by the cigarette construction model, a 2.5/55.000 Y tow was proposed as a filtration material with 65% dilution.

References

- (1) Report from Stampfli-M. to Erkohen-E. January 7 1982
- (2) Report from Erkohen-E. to Lopes-F. January 12 1982.

Stampfli

ELE/nod/JANUARY 27 1982

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Plugwrap permeability : 100 K

l : 100 mm

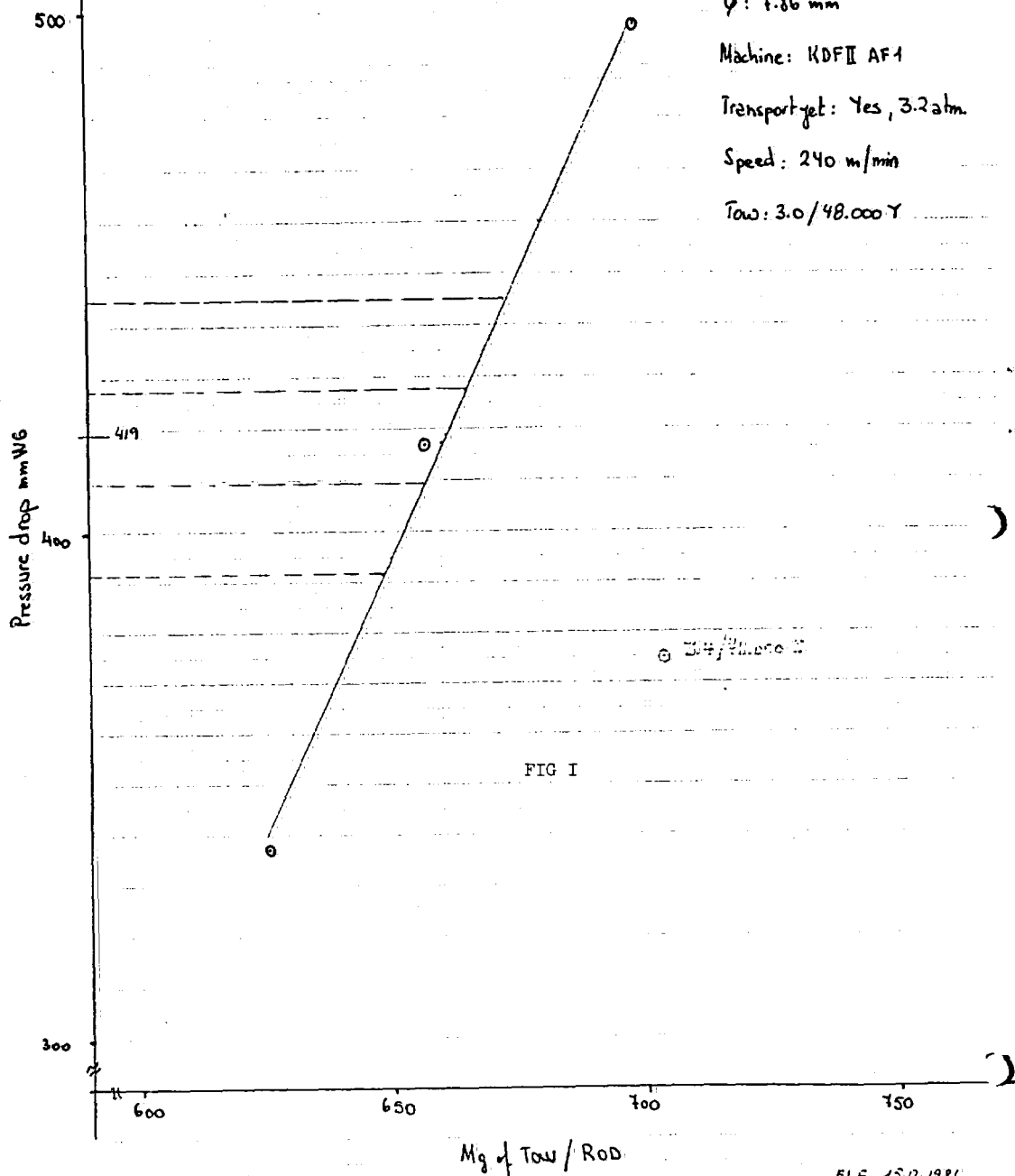
ϕ : 7.86 mm

Machine: KDFII AF1

Transport jet: Yes, 3.2 atm.

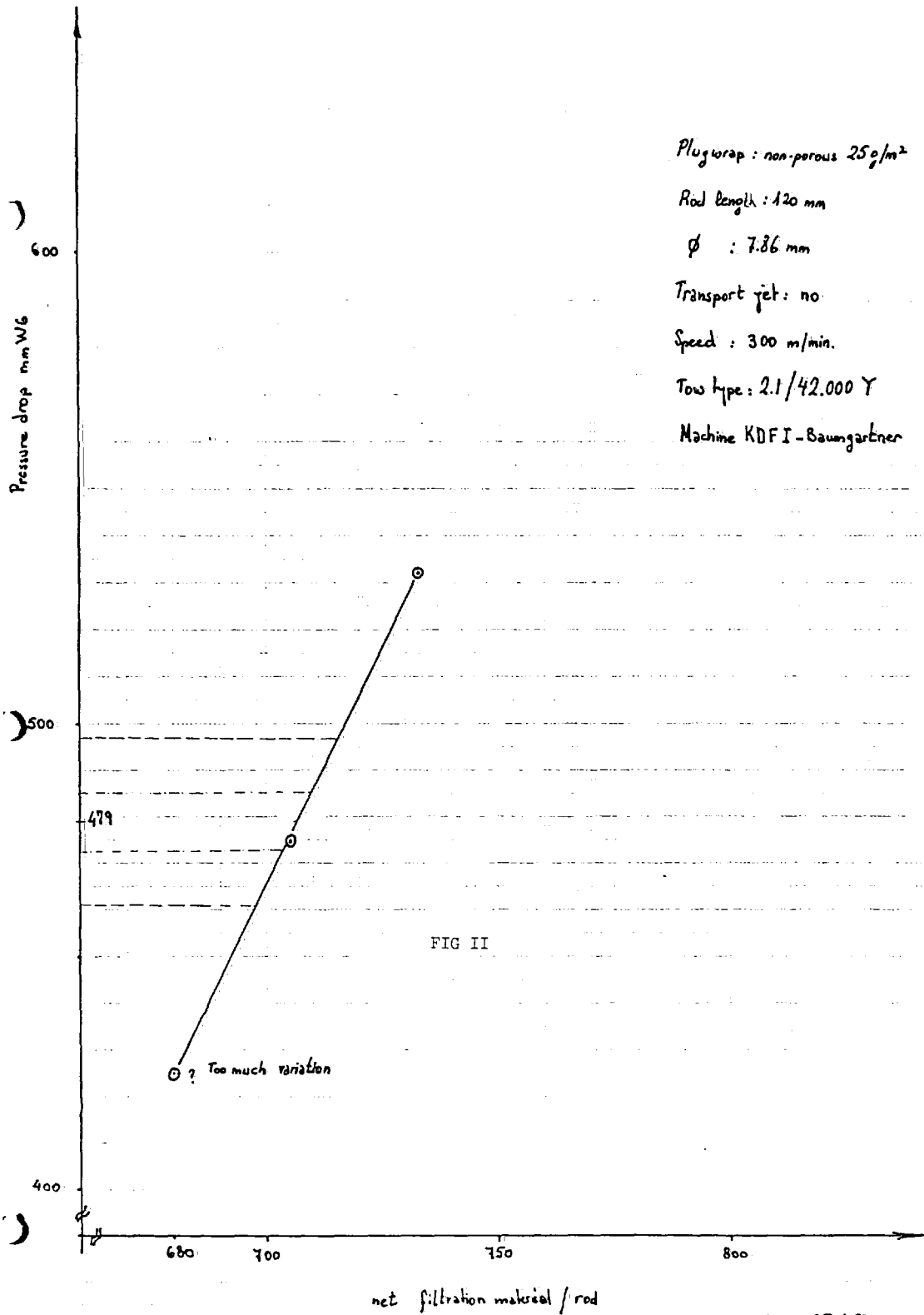
Speed: 240 m/min

Tow: 3.0/48.000 Y



ELE 15.12.1981

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ELE : 25.1.82

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